

Technical Bulletin

2002-EmEs-1a

Billbugs

Situation Summary: Refer to Technical Bulletin 2002-EmEs-1 for original *Situation Summary* discussion. **Update:** During early and mid-February 2003, additional turfgrass injury was observed in EMPIRE Zoysia production fields in south and central Florida. Sod Solutions has determined the cause of this injury to be billbug larvae. This injury appears to be of lesser magnitude than that reported in Technical Bulletin 2002-EmEs-1.

Symptoms: Refer to Technical Bulletin 2002-EmEs-1 for original discussion of *Symptoms*. **Update:** Although most injury to date has been observed during spring green-up, we suspect that a general loss of color during late fall may also be symptomatic. Observations of this type made at two farms during the fall of 2002 will be investigated further for possible linkage to this issue.

Diagnosis: Refer to Technical Bulletin 2002-EmEs-1 for original *Diagnosis* discussion. **Update:** When inspecting areas in your turf, look for both adult and larval forms. Mature billbug larvae (white grubs) are white with a tan head capsule (see Figure 1). These mature grubs and the adult forms (black, weevil-like appearance) measure about 3/8" long (see Figure 2).



Figure 1 - Mature Billbug Larva



Figure 2 - Adult Billbug

Treatment: Refer to Technical Bulletin 2002-EmEs-1 for original discussion on *Treatment*. **Update:** Through field trials, research and producer experiences, Sod Solutions has determined that the most effective control regimen is comprised of monitoring and preventative/curative insecticide applications. As such, Sod Solutions strongly recommends *all* licensees begin / continue on-going monitoring activities; i.e. once per week (active growing season) or once per month (dormant season) visual inspections of all production fields is appropriate.

When applying insecticide, choose your chemistries based on the relative density of your population (larval, adult, or both). Adults are more easily controlled with contact insecticides such as deltamethrin (DeltaGard GC), carbaryl (Sevin), chlorpyrifos (Dursban) and bifenthrin (Talstar GC). When grub populations are high, imidacloprid (Merit 75 WSP) has proven to be effective and carries our highest recommendation. Licensees who have used Merit 75 WSP have reported few on-going problems. When populations are mixed, it is recommended that tank mixes be made with Merit 75 WSP and one of the compatible contact products listed above. *Please remember that contact insecticides work better on adults and are not overly effective on the larval form. Understanding your relative population densities will provide for maximum effect and mitigate on-going issues that result from mis-targeted treatments.*

Production Considerations: Refer to Technical Bulletin 2002-EmEs-1 for original discussion of *Production Considerations*. **Update:** Sod Solutions is continuing to collect data from licensees

and in-house research. Further field trials are underway now and updates to this issue will be conveyed as they are developed. If you suspect you have a billbug issue or would like to obtain more specific information on monitoring techniques, please contact Joel Lane, Sod Solutions Field/Technical Rep, at 904.631.4343.

Related Information: Refer to Technical Bulletin 2002-EmEs-1 for original discussion on *Related Information*. **Update:** None.

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